



August 1, 2008

Mary Nichols, Chairman  
California Air Resources Board  
1001 I Street  
Sacramento, Calif. 95814

**RE: Comments on Climate Change Draft Scoping Plan**

Dear Chairman Nichols and Members of the California Air Resources Board:

CURRENT Group, LLC (CURRENT) commends the California Air Resources Board (CARB) for its leadership in developing a comprehensive plan to reduce greenhouse gas (GHG) emissions. CURRENT is a Smart Grid company whose technology is focused on creating a more efficient distribution grid that reduces energy consumption, and therefore greenhouse gas (GHG) emissions.<sup>1</sup>

CURRENT applauds CARB's acknowledgement of the critical role of a Smart Grid in the reduction of GHG emissions. At page C-57 in the Appendices, CARB notes the role that Smart Grids will play in meeting the GHG emission goals for 2050. CURRENT recommends, however, that the Board accelerate the inclusion of Smart Grid to its GHG reduction strategies for 2020. Smart Grid is here *today*, helping to reduce GHG emissions *now*. There is no need to wait until post-2020 to implement Smart Grids and receive the GHG reduction benefits.

Smart Grid refers generally to the digital automation of the entire distribution grid. For instance, the Electric Power Research Institute (EPRI) defines Smart Grid as "a power system that can incorporate millions of sensors all connected through an advanced communication and data acquisition system. .... For example, where today an electric utility company might monitor and control hundreds of grid devices, in the future it will monitor and control thousands to millions of devices, all designed to provide information on the power systems' performance."<sup>2</sup> Similar definitions have been put forth by the Modern Grid Initiative sponsored by the U.S. Department of Energy (DOE)<sup>3</sup> and the California Energy Commission (CEC).<sup>4</sup>

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<sup>1</sup> CURRENT provides high-speed, two-way communications networks with embedded sensing that is installed on existing electric distribution networks to transform them into efficient, automated Smart Grids. For more about CURRENT, see [www.currentgroup.com](http://www.currentgroup.com).

<sup>2</sup> See Michael W. Howard, Ph.D., P.E., Senior Vice President, R&D Group, Electric Power Research Institute, *Facilitating the Transition to a Smart Electric Grid*, Testimony Before the House Energy and Commerce Subcommittee on Energy and Air Quality (May 3, 2007), available at: [http://energycommerce.house.gov/cmte\\_mtg/110-eaq-hrg.050307.Howard-testimony.pdf](http://energycommerce.house.gov/cmte_mtg/110-eaq-hrg.050307.Howard-testimony.pdf).

<sup>3</sup> The DOE-sponsored Modern Grid Initiative identifies a Modern or Smart Grid as having five components: Integrated Communications, Sensing and Measurement, Advanced Components, Advanced Control Methods, and Improved Interfaces and Decision Support. It states "[o]f these five key technology areas, the implementation of integrated communications is a foundational need, required by the other key technologies and essential to the modern power grid" and that "[h]igh-speed, fully integrated, two-way communications technologies will allow



Today, CURRENT is supporting Smart Grid deployments in Dallas, Texas with Oncor Electric Delivery and in Boulder, Colorado with Xcel Energy.<sup>5</sup> These Smart Grids are monitored by a 24x7 network management system and analytic software platforms specifically designed to enhance the reliability, security and efficiency of the electric distribution grid. Smart Grids today are already reducing GHG emissions. Xcel is projecting that its Smart Grid deployment can reduce its line losses by 30%.<sup>6</sup> The CEC has estimated that such optimization could reduce distribution grid line losses by 15% or more and save 500,000 tons of CO<sub>2</sub> annually.<sup>7</sup> EPRI has projected that a Smart Grid can reduce electric usage by up to 10% and reduce CO<sub>2</sub> emissions from the electricity grid by up to 25%.<sup>8</sup> Savings on this level are essential to helping California meet the ambitious GHG reduction goals established by AB 3232<sup>9</sup> in both the 2020 timeframe<sup>10</sup> and the 2050 timeframe in Executive Order S-3-05.<sup>11</sup>

For these and other reasons Smart Grid is now the official policy of the United States. The Energy Independence and Security Act of 2007, enacted into law last December, provides that “It is the policy of the United States to support the modernization of the Nation’s electricity transmission and distribution system to maintain a reliable and secure electricity infrastructure that can meet future demand growth and to achieve [10 stated goals], which together characterize a Smart Grid.” This law then authorizes hundreds of millions of dollars in federal grants to

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much-needed real-time information and power exchange.” A Systems View of the Modern Grid at B1-2 and B1-11, INTEGRATED COMMUNICATIONS, Conducted by the National Energy Technology Laboratory for the U.S. Department of Energy Office of Electricity Delivery and Energy Reliability (Feb. 2007).

<sup>4</sup> The CEC Report states that sensors are the next basic requirement for virtually all Distribution Automation applications: “communications is a foundation for virtually all the applications and consists of high speed two-way communications throughout the distribution system and to individual customers.” *California Energy Commission on the Value of Distribution Automation, California Energy Commission Public Interest Energy Research Final Project Report* at 51 (Apr. 2007) (CEC Report), available at: <http://www.energy.ca.gov/2007publications/CEC-100-2007-008/CEC-100-2007-008-CTF.PDF>.

<sup>5</sup> See e.g., *Xcel starts construction of Boulder ‘smart grid’*, Denver Business Journal (May 15, 2008), available at: <http://www.bizjournals.com/denver/stories/2008/05/12/daily41.html>. An overview of Xcel’s Smart Grid City is available online at: <http://www.xcelenergy.com/docs/SmartGridCityDesignPlan.pdf> and [http://www.xcelenergy.com/XLWEB/CDA/0,3080,1-1-1\\_15531\\_43141\\_46932-39884-0\\_0\\_0-0,00.html](http://www.xcelenergy.com/XLWEB/CDA/0,3080,1-1-1_15531_43141_46932-39884-0_0_0-0,00.html). Additional information about CURRENT is available at [www.currentgroup.com](http://www.currentgroup.com).

<sup>6</sup> *Xcel Energy Smart Grid: A White Paper* at 5, Xcel Energy (Feb. 2008), available at: <http://www.xcelenergy.com/docs/SmartGridWhitePaper.pdf>.

<sup>7</sup> *California Energy Commission on the Value of Distribution Automation, California Energy Commission Public Interest Energy Research Final Project Report* at 75 (Apr. 2007) (CEC Report), available at: <http://www.energy.ca.gov/2007publications/CEC-100-2007-008/CEC-100-2007-008-CTF.PDF>. Similarly, a study at Hydro Quebec quantified those savings at two billion kWh. *Id.* at 75.

<sup>8</sup> *Electricity Sector Framework for the Future: Achieving the 21st Century Transformation* at pp. 41-43, Electric Power Research Institute (EPRI), Volume I (Aug. 2003).

<sup>9</sup> Global Warming Solutions Act of 2006 (Chapter 488, Stat. of 2006).

<sup>10</sup> See Cal. Health and Safety Code Section 38530(a) (requiring reductions in greenhouse gas emissions to 1990 levels by 2020).

<sup>11</sup> See Executive Order S-3-05 calling for reductions in greenhouse gas emissions to 80 percent below 1990 levels by 2050.





facilitate Smart Grid deployments and requires each State to “consider requiring that, prior to undertaking investments in nonadvanced grid technologies, an electric utility of the State demonstrate to the State that the electric utility considered an investment in a qualified smart grid system.” Several States have already adopted legislation directing their utilities or regulatory commissions to deploy and/or evaluate Smart Grid; several other States have such legislation pending. Equally significant is that members of the California Public Utilities Commission have stated their intention to commence a rulemaking in September of 2008 to address Smart Grid implementation by regulated California utilities, as required by the federal legislation. In short, not only is Smart Grid available today, it is fast becoming the law of the land.

Accordingly, CURRENT recommends that Smart Grid be included in the GHG reduction strategies for 2020 as well as 2050. CURRENT urges CARB more fully to consider the role Smart Grid plays today in reducing GHG emissions; if utilities deploy Smart Grid sooner rather than later, the GHG emissions goals may also be met sooner rather than later. CURRENT welcomes the opportunity to work with CARB and support the ongoing efforts to mitigate climate change. Thank you for your consideration of these comments.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Michael B. Day".

Michael B. Day

Attorneys for Current Group, LLC

GOODIN, MACBRIDE, SQUERI, DAY &  
LAMPREY, LLP

Michael B. Day

Joseph F. Wiedman

505 Sansome Street, Suite 900

San Francisco, CA 94111

Telephone: (415) 392-7900

Facsimile: (415) 398-4321

Email: [mday@goodinmacbride.com](mailto:mday@goodinmacbride.com)

Email: [jwiedman@goodinmacbride.com](mailto:jwiedman@goodinmacbride.com)

cc: Daniel Sperling  
Jerry Hill  
Dorene D'Adamo  
Barbara Riordan  
John R. Balmes, M.D.  
Lydia H. Kennard  
Sandra Berg  
Ron Roberts  
John G. Telles, M.D.  
Ronald O. Loveridge